



OPAL 300DP

Stack Air Velocity Monitoring System



- Volumetric Flow
- Air Velocity
- Static Pressure
- Dynamic Pressure
- Stack Temperature



- ***Dynamic pressure technology***
- ***Automatic probe purge system***
- ***Automatic zero calibration***
- ***Integrated temperature sensor***
- ***Keypad calibration & testing***
- ***Programmable outputs & alarms***
- ***Available wall or 19" rack mount***



300 Series - Technical Specifications

The OPAL 300 stack flow and temperature monitoring systems are used to provide continuous drift free measurement of airflow conditions in industrial applications using highly reliable solid state differential pressure sensor measurement technology coupled with rugged RTD and thermocouple sensors. The key system design features include:

- Programmable, fully automatic pitot tube purge cleaning facilities to enable low maintenance operation in moist and dirty flue gas streams where other technologies often fail to perform.
- Automatic sensor zero testing to ensure continuous drift free operation across a wide variety of ambient conditions.
- Multiple programmable outputs, ensuring application versatility for end users.

CONTROL UNIT

Enclosure
Dimensions
Weight
Ambient Temperature
Power Supply
Control Panel
Display
Operator Indicating LED's
Measured components

IP65 weatherproof, wall mount (Optional 19" rack mount)

W400 x D200 x H500

9.5 Kg

-20 to +50 Deg C

110 or 240vac, (+/- 15%) 50/60Hz, 125va

Membrane keypad calibration and operational control

Alphanumeric, four line x 20 character x 4mm LCD, backlit

Power, Alarm active, Autocal, Auto purge, Setup mode

Pd: Dynamic Pressure, Range 6 to 0 -150 mmH²O (+/- 0.5% FSD) - Continuous

Ts: Stack temperature, Range -5 to 500 DegC (+/- 0.5% FSD) - Continuous

Ps: Stack Pressure, Range +/- 40 mmHg (+/-2% FSD) - Cyclic sampling

Patm: Atmospheric Pressure, Range 700-800 mmHg (+/-2% FSD) - Cyclic sampling

Th: Ambient Temperature, Range -30 to 100 DegC (+/-2% FSD) - Continuous

Qs: Flowrate m³/hr

Vs: Velocity m/sec

R: Density kg/m³

Displayed Components
(Calculated)

Outputs – 4-20mA

Pd: Dynamic Pressure, Adjustable 0 -150 mmH²O (option Flowrate 0 – 99999 m³/hr)

Vs: Stack Air Velocity, Adjustable 0 – 50m/sec

Ps: Stack Temperature, Adjustable -50 to 500 DegC

Accuracy

+/- 0.5% FSD

Resolution

0.01 mmHg

Outputs - Relay

System Fault, Autocal in Progress, Autopurge in Progress, Setup Mode

Auto Purge

Solenoid operation – instrument air backflush of pitot tubes. Programmed start / duration

Auto Zero

Solenoid operation – cross connection of pitot tubes. Programmed start / duration

Auto Static Pressure

Solenoid operation – periodic static pressure sensing update.

SENSOR - PROBE

Enclosure
Probe
Installation
Insertion Length
Connection
Process Temperature

IP65 sensor head terminal box

Dual pitot tubes, SS316 material with integrated RTD or Type K thermocouple (option)

90NB standard flange: 205mm dia, 4 x 18 mm holes on 165mm pcd. Optional ANSi 3", 4" and 6"

Standard probe lengths 500, 1000, 2000 and 3000mm.

Dual pitot tube airlines, temperature sensor cable. Standard 5 metres. (optional 100 metres)

Up to 600° C standard.

